REMARKS

In an Office Action mailed December 27, 2006, pending claims 1-37 were examined. Applicants thank the Examiner for the time and effort spent on this application. Claims 1-20 and 35-37 were rejected. Claims 21-34 were objected to. In response, Applicants are herein amending claims 1, 4, 11-13, 20, 22, 23, 29, 35 and 37. Claims 3, 14-19, 21 and 36 are herein canceled. A new dependent claim 38 is herein added. As a result of these amendments, the total number of pending independent claims remains five which is the same number that was originally paid for. Additionally, no increase in the total number of claims is made as a result of this amendment. Therefore, no fee is owed to enter this amendment. Applicants request reconsideration of the rejected claims and the allowance of the application in response to this communication.

Claims 1 and 2 were rejected under 35 U.S.C. 102(b) as being anticipated by Womack et al. (U.S. Patent 5,982,819). In response Applicants have herein amended claim 1 to incorporate features from the claims that were objected to. For example, Womack et al. do not teach or suggest "receiving a signal strength of a signal, comparing the signal strength to a threshold value that defines an end point of a range of signal strength, and controlling gain of the signal according to either a first signal transfer if the signal is less than the threshold value or a second signal transfer if the signal is greater than the threshold value" as recited in claim 1. Womack et al. do not teach or suggest "the automatic gain control state machine controlling gain of the signal over a plurality of ranges of the signal characteristic according to a gain control function which is continuous within each of the plurality of ranges and modified to be non-continuous at an edge of each of the plurality of ranges" as recited in claim 1. As recited in claim 1 and described at page 18, lines 12-19, the gain control operates according to a function wherein a standard step size is used when a counter indicates that iterations are within a limit or range. If the counter exceeds the limit, then at this edge the automatic gain control response changes to a significantly increased controlled change. Claim 2 is dependent from claim 1. Therefore, Applicants request the reconsideration and withdrawal of the rejection of claims 1-2 under 35 U.S.C. 102(b).

Claims 14, 17-20 and 37 were rejected under 35 U.S.C. 102(e) as being anticipated by Koizumi (U.S. Patent 6,965,656). In response claims 14 and 17-19 are canceled. Claim 20 is amended to incorporate the recitals of previous dependent claim 21 which was indicated to be allowable. Claim 21 is therefore canceled. Claim 37 is herein amended by being rewritten to incorporate previous limitations from claim 20 and dependent claim 34. Claim 34 was indicated in the Office Action to be allowable if rewritten into independent form with the base limitations. Claim 37 recites that "the gain is controlled over a plurality of ranges of the signal characteristic according to a gain control function" without specifically identifying that signal characteristic. However, in the amended form, claim 37 is clearly distinguishable from Koizumi. For example, Koizumi do not teach or anticipate "determining if bidirectional gain tracking is enabled; increasing attenuation of the signal strength if bidirectional tracking is not enabled; and increasing and decreasing attenuation of signal strength if bidirectional tracking is enabled" as recited in amended claim 37. Applicants respectfully request the reconsideration and withdrawal of the rejection of claims 20 and 37.

Claims 35 and 36 were rejected under 35 U.S.C. 103(a) as being unpatentable over Koizumi (U.S. Patent 6,965,656). Claim 36 is herein canceled. Claim 35 has been amended into independent form to include recitals of claim 33 that was indicated to be allowable when incorporated with its base limitations. While the gain control function is not recited in claim 35 in as much detail as in claim 20, amended claim 35 is readily distinguishable from Koizumi. For example, Koizumi does not teach or suggest a gain control method wherein "determining if bidirectional gain tracking is enabled; controlling the gain bidirectionally if tracking is enabled; and controlling the gain unidirectionally if tracking is not enabled". Applicants request the reconsideration of amended claim 36 and the withdrawal of the rejection.

Claims 3-8, 10, 11-13, 18 and 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Womack (U.S. Patent 5,982,819) in view of Koizumi (U.S. Patent 6,965,656). Claims 3, 18 and 19 are herein canceled. Of the remaining claims 2-8, 10 and 11-13, all of the claims depend from amended base claim 1 and are allowable at least for the recitals present in the base claim. For example, the combination of Womack and Koizumi do not teach or suggest "controlling gain of the signal according to either a first

signal transfer if the signal is less than the threshold value or a second signal transfer if the signal is greater than the threshold value" as recited in the base claim of each of these claims. Applicants therefore request the withdrawal of the rejection of claims 2-8, 10 and 11-13 as amended herein and the allowance thereof.

Newly present dependent claim 38 is dependent on claim 37 which has been distinguished above from the art made of record. Claim 37 recites the feature described, for example, at page 18, lines 12-19. The gain control operates according to a function wherein a standard step size is used when a counter indicates that iterations are within a limit or range. If the counter exceeds the limit, then at this edge the automatic gain control response changes to a significantly increased controlled change. Applicants respectfully submit that claim 38 is in condition for allowance.

Applicants respectfully submit that this communication resolves all of the issues raised in the office communication. The Office Action contains numerous statements characterizing the claims, the specification, and the prior art. Regardless of whether such statements are addressed by Applicants, Applicants do not subscribe to any of these statements, unless expressly indicated by Applicants. Applicants earnestly request the allowance of the pending application.

Should issues remain that might be subject to resolution through a telephonic interview, the Examiner is requested to telephone the undersigned at (512) 996-6839.

Respectfully submitted,

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